

WHAT IS CLAIMED IS:

1. A hard-surface cleaning composition for removing cooked-, baked-, or burnt-on food soil from cookware and tableware, the composition comprising a soil swelling agent and a thickening system comprising synthetic smectite type clay thickening agent having an average platelet size of less than about 100 nm.
2. A composition according to claim 1 wherein the thickening system comprises a mixture of a synthetic smectite type clay thickening agent having an average platelet size of less than about 100 nm and a natural gum.
3. A composition according to claim 1 comprising an organic solvent system including at least one solvent component acting as soil swelling agent.
4. A hard-surface cleaning composition for removing cooked-, baked-, or burnt-on food soil from cookware and tableware, the composition comprising an organic solvent system and a synthetic smectite type clay thickening agent having an average platelet size of less than about 100 nm.
5. A composition according to claim 1 wherein the composition, when sprayed on a vertical stainless steel surface, has a flow velocity less than about 1 cm/s.
6. A composition according to claim 1 having shear thinning properties.
7. A composition according to claim 1 having a viscosity greater than about 1 Pa s at 6 rpm, lower than about 2 Pa s at 30 rpm, and lower than about 1 Pa s at 60 rpm, measured with a Brookfield cylinder viscometer (model LVDII) using 10 ml sample, a spindle S-31.

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8. A composition according to claim 1 wherein the composition has a pH, as measured in a 10% solution in distilled water, from about 11 to about 14.
9. A hard-surface cleaning composition for removing cooked-, baked-, or burnt-on food soil from cookware and tableware, the composition comprising a soil swelling agent and a shear-thinning thickening system whereby the composition has a viscosity greater than about 1 Pa s at 6 rpm, lower than about 2 Pa s at 30 rpm, and lower than about 1 Pa s at 60 rpm, measured with a Brookfield cylinder viscometer (model LVDII) using 10 ml sample, a spindle S-31; and wherein the composition, when sprayed on a vertical stainless steel surface, has a flow velocity less than about 1 cm/s.
10. A composition according to claim 1 wherein the composition has a reserve alkalinity of less than about 5.
11. A composition according to claim 1 wherein the composition comprises from about 0.05 to about 10% of surfactant selected from the group consisting of anionic surfactants, amphoteric surfactants, zwitterionic surfactants, non-ionic surfactants, semi-polar surfactants, and mixtures thereof.
12. A composition according to claim 1 wherein the composition displays an advancing contact angle on a polymerised grease-coated glass substrate at 25°C of less than about 20°.
13. A composition according to claim 1 wherein the composition has a soil swelling index of at least about 100%.
14. A composition according to claim 1 comprising a spreading auxiliary selected from the group consisting of organic solvents, wetting agents, and mixtures thereof.

- A composition according to claim 14 wherein the spreading agent has a liquid surface tension of less than about 30 mN/m.
- A composition according to claim 14 wherein the spreading auxiliary or more organic solvent components selected from the group consisting of alcohols, glycols, glycol derivatives, and mixtures thereof.
- A composition according to claim 14 wherein the spreading agent is a mixture of a fully water-miscible organic solvent and a coupling organic solvent having limited miscibility in water and wherein the ratio of water-miscible organic solvent to coupling organic solvent is in the range from about 4:1 to about 1:1.
- A composition according to claim 14 wherein the spreading agent is a quaternary ammonium salt having a liquid surface tension of less than about 30 mN/m.
- A composition according to claim 14 wherein the spreading agent is a tertiary amine oxide wetting agent.
- A composition according to claim 1 wherein the soil swelling agent is an organic solvent selected from the group consisting of alkanolamines, alkenolamines, alkyleneamines, and mixtures thereof.
- A composition according to claim 1 wherein the composition has a grease removal index of at least 25%.
- A composition according to claim 1 wherein the composition is a solvent system selected from the group consisting of alcohols, alkanolamines, ethers, glycols, terpenes, and mixtures thereof, including at least one organic solvent component.

23. A composition according to claim 22 wherein the organic solvent system is selected from the group consisting of organoamine solvents, inclusive of alkanolamines, alkylamines, alkyleneamines and mixtures thereof; alcoholic solvents inclusive of aromatic, aliphatic (preferably C₄-C₁₀) and cycloaliphatic alcohols and mixtures thereof; glycols and glycol derivatives inclusive of C₂-C₃ (poly)alkylene glycols, glycol ethers, glycol esters and mixtures thereof; and mixtures selected from organoamine solvents, alcoholic solvents, glycols and glycol derivatives.
24. A composition according to claim 22 wherein the organic solvent comprises organoamine (especially alkanolamine, more especially 2-aminoalkanol) solvent and glycol ether solvent, and wherein the glycol ether solvent is selected from the group consisting of ethylene glycol monobutyl ether, diethylene glycol monobutyl ether, ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, propylene glycol monobutyl ether, dipropylene glycol monobutyl ether, ethylene glycol phenyl ether, and mixtures thereof.
25. A composition according to claim 22 wherein the glycol ether is a mixture of diethylene glycol monobutyl ether and propylene glycol butyl ether.
26. A composition according to claim 22 wherein the organic solvent has a volatile organic content above 1 mm Hg of less than about 50%.
27. A composition according to claim 22 wherein the organic solvent is essentially free of solvent components having a boiling point below about 150°C, flash point below about 50°C, or vapor pressure above about 1 mm Hg.
28. A composition according to claim 1 in the form of a dishwashing pretreatment composition.

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29. A composition according to claim 1 additionally comprising a salt having a divalent cation.
30. A method of removing cooked-, baked- or burnt-on soils from cookware and tableware comprising treating the cookware/tableware with a hard surface cleaning composition according to claim 1.
31. A method of removing cooked-, baked- or burnt-on polymerised grease soils from metallic cookware and tableware comprising treating the cookware/tableware with a hard surface cleaning composition according to claim 1.
32. A method of removing cooked-, baked- or burnt-on carbohydrate soils from metallic cookware and tableware comprising treating the cookware/tableware with a hard surface cleaning composition according to claim 1.
33. A method according to claim 30 comprising the step of pre-treating the cookware/tableware with the hard surface cleaning composition prior to manual or automatic dishwashing.
34. A method according to claim 30 comprising the step of pre-treating the cookware/tableware with the hard surface cleaning composition and covering the pre-treated cookware/tableware with cling film for a time sufficient to promote swelling of the soil prior to manual or automatic dishwashing.
35. A method of removing cooked-, baked- or burnt-on soils from cookware and tableware comprising pretreating the soiled cookware/tableware with a shear-thinning hard surface cleaning composition comprising a soil swelling agent and thereafter washing the cookware/tableware in an automatic dishwashing machine.

36. A hard surface cleaning product comprising the hard surface cleaning composition of claim 1 and a spray dispenser therefor, and wherein the spray droplets have an average equivalent geometric diameter from about 3 μm to about 10 μm , as measured using a TSI Aerosizer.

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